



# Open Source Data Science Training



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## 4 reasons to invest in open-source data science training

With the ever-changing technology landscape come lots of challenges for companies. Specially around data science, where we are witnessing a constant expansion in technologies and tools. But the question remains: **what concrete advantages does open-source data science bring to your organisation?**

### 1. Develop your own use cases.

Organizations should get ready to adopt a data-driven mindset to remain competitive. For this, identifying relevant use cases for their businesses is crucial. There is no one better prepared than your own, trusted and experienced employees to come up with the right use cases for data science in your business. **You do not need an expensive consultancy, you have already the experts!**

### 2. In-house customer support.

Although “open-source software” is free, it comes to a cost. Yes, you don't have to pay the hefty yearly license,

but you have to customize your software to your infrastructure and needs, unless your own domain experts also learn to work with the new technologies.

### 3. Increased productivity and reduced employee turnover.

A happy employee is an employee that stays with you. Open source technologies are here to stay, and smart, valuable data scientists and data analysts want to work with them. Proprietary software limits their creativity and that would eventually make them leave.

### 4. Trained employees can be promoted.

Although there are signs that data science starts to be commoditized, with a booming industry around data science and machine learning bootcamps, you can not really expect that any of such “instant experts” will be able to take a senior role. Investing in your employees now will save you money in the future when you are fully committed to embrace advanced analytics in your business, as the new joiners will find strong mentors and leaders within your team.



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# Why us?

Our courses focus on **practical applications** that translate in **direct impact for the business**.

Our training offer focuses on **well-established** open source technologies, such as R or Python, as they provide advantages and have the flexibility for moving from **prototype to production with minimal effort**.

The participants of our hands-on courses can:

- Learn relevant tools and tricks, directly from the people who use them everyday.
- Work on a project they care about, to keep them engaged and progress faster.
- Received personalized and feedback and custom learning path..

We have delivered data science trainings and presentations for the following organizations:

- ❑ Czech Technical University
- ❑ Economics Discovery Hub, Prague, CZ.
- ❑ Ukrainian Catholic University, UA.
- ❑ Packt Live, India/UK

Additionally, we can help you build data science teams from the ground up. We have supported the training and development of data science competencies in the following organizations:

- ❑ Actum+, Prague, Czech Republic.
- ❑ Datamole s.r.o. Prague, Czech Republic.



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- ❑ Global Consultancy company in Prague, Czech Republic.

## Testimonials

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*Working with Pablo was a positive experience. Thanks to his vast knowledge and expertise in Data analytics he can grasp new business problems very fast. His approach is very thorough and he pays high attention to detail. And on top of that, Pablo is a nice person with positive attitude, who can convey his experience and ideas with ease.*

- **Jakub Linhart, Chairman of the Board at GS Consulting, a.s.**

*Very clear presentation with an optimal level of deep dive/details (neither too low level mathematical nor keeping at very high level). Really liked it. The presenter reflected a great understanding of this domain this way by explaining it in simple terms.*

- **Packt Live seminar attendant**

*Cooperation with Pablo was very inspiring and beneficial. His knowledge and experience helped our team to move forward in many projects. I appreciate his effective approach in problem solving and his help in skill development of me and my colleagues in Data Science.*

- **Eliska Valterova, Data Visualization Expert**

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## Building Shiny Apps (1-2 days)

In this course, we will learn how to develop a data-driven web application. The course is entirely practice-oriented.

Example apps can be found here:  
<https://www.showmeshiny.com/>

**Prerequisites:** Some knowledge of R is expected. You should be able to read/write files, do basic analysis and plots.

### Topics:

- Web development fundamentals.
- Introduction to reactive programming in Shiny.
- Sharing and deploying Shiny web applications and dashboards.

## Data Analysis and Visualization in R (1-2 days)

Work effectively in R for data analysis. We will cover data manipulation, visualization and application of some basic models (logistic regression, decision trees).

**Prerequisites:** Some knowledge of R is expected

### Topics:

- Data manipulation with dplyr
- Visualizations with ggplot2
- Text manipulation using the packages tidytext.
- Basic R libraries for off-the-shelf models (decision trees, regression).

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## Introduction to Python/R (1 day)

In this one day intensive course, we will cover the fundamentals of the Python/R programming language.

**Prerequisites:** The Anaconda distribution for Python 3 should be installed and working in your machine, or the R package and RStudio, accordingly.

### Topics:

- Programming fundamentals
- Data structures (lists, dictionaries)
- For loops and flow control in programs.
- Introduction to object oriented programming.

## Machine Learning with Python (2-3 days)

In this course, we will go to the basics of Machine Learning. At the end of the course, you would be familiar with the scikit-learn machine learning library.

**Prerequisites:** Familiarity with Python. The Anaconda distribution for Python 3 should be installed and working in your machine.

### Topics:

- The ML pipeline for classification and regression
- Decision Trees and ensemble models (gradient boosting, random forests)
- Unsupervised learning: clustering and dimensionality reduction.



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## Neural networks and deep learning (2-3 days)

In this course, we will dig into the most exciting technology around: deep learning. We will train neural networks in small data to teach you the basics to get you started developing your own applications.

**Prerequisites:** Solid knowledge of Python and machine learning (supervised/unsupervised learning fundamentals). The Anaconda distribution for Python 3 should be installed and working in your machine, as well as the keras and tensorflow libraries.

### Topics:

- Neural networks.
- Image classification.
- Transfer Learning.
- Deep Learning for NLP and text. Sequential prediction.
- Debugging and deploying deep learning models.

## Reinforcement Learning (2-3 days)

Reinforcement Learning algorithms are behind some of the most impressive breakthroughs in Artificial Intelligence. In this course we will cover the fundamentals with an emphasis in the applications to sequential decision making in planning, marketing and robotics.

**Prerequisites:** Solid knowledge of Python and machine learning (supervised/unsupervised learning fundamentals). The Anaconda distribution for Python 3 should be installed and working in your machine, as well as the keras and tensorflow libraries.

### Topics:

- Bandit algorithms. Markov Decision Processes.
- Tabular methods: Q-Learning, Sarsa, Function approximation and deep reinforcement learning.
- Policy methods. Reinforcement learning in practice.



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# Partnering with us

## Discovery Meeting/Call

We would like first to understand your needs, first-hand. Our aim is to help you decide the training option that would bring you value **as soon as possible**.

## Curriculum Design

After our initial call, we prepare several training options, according to your needs, budget and other constraints.

## Delivery of the Training

Whether remotely, on-site in your premises or in our offices. We will provide software prerequisites well in advance to hit the ground running.

## More information:

[info@maldonado-consulting.eu](mailto:info@maldonado-consulting.eu)

